COTTON CHATS

FROM

DRAPER COMPANY

SHIPMAN'S
COMMON-SENSE BINDER

PATENTED

JANUARY 19, 1892. APRIL 19, 1904

To open binder, remove the slides from fasteners raise the fasteners to an erect position and then file papers. For punching: lay the papers on covers and mark sheets to correspond with fasteners.

If DUPLICATE is wanted ORDER 25981

ASA L. SHIPMAN'S SONS
MANUFACTURERS,
NEW YORK.

COTTON CHATS

By the Secretary of the
DRAPER COMPANY,
HOPEDALE, MASS.

No. 11. OCTOBER, 1902.

LOOM TESTS.

We have recently noted the circulation of a printed record of a test between our Northrop looms and those of another builder. Either by intention or inadvertence the date was omitted. We would advise those interested to know more of time, place and circumstances.

COTTON FACTORIES IN CHINA.

The writer recently had an interesting talk with Captain Nichols Pratt, who is engaged in trade in Chinese waters and has been associated as an investor in Chinese cotton mills. He tells me that the mills owned by foreigners are rarely profitable, although the mills owned exclusively by the Chinese are moderately so. Local prejudice and petty interference, taxation, and other channels of attack, either directly or indirectly, embarrass a foreign management. A quotation from the share list of "The Celestial Empire," for July 16, 1902, is interesting as showing the decline in value of cotton mill shares.

Ewo Cotton Spinning and W. Co., Ltd., value of shares paid up, 100 taels, present value, 42 taels.
International Cotton M. Co. Ltd., present value, 35 "
Laou-Kung-Mow Cotton S. & W. Co. Ltd., present value, 47 1-2 taels.
Soy Chee Cotton Spinning Co., Ltd., original value, 500, present value, 150 taels.

None of these companies paid dividends last year.

Exports from England to Hong Kong and China, according to private return from same paper, were as follows, for six months, January to July, 1902:—

Plain cotton, 276,000,000 yards, against 156,000,000 in 1901.
Dyed and colored cottons, 46,100,000 yards, against 44,200,000, 1901.
Printed cottons, 17,500,000 yards, against 9,200,000 in 1901.

There is evidence that the Chinese can not supply their increasing needs and Americans must be enterprising if wishing to get their share of the trade, in view of the persistence of their English, German and Russian competitors.

LOOM COMPARISON.

The correspondent of the Manchester Guardian, whom I have quoted from several times, wrote of one matter as follows:—

"*The number of power looms run by a weaver is, in practice, determined not by the weaver but by the employer, whose first care is that the capacity of the looms shall be fully exploited. I have watched the American weaver running eight ordinary looms, ten looms with warp-stop motion, twelve Harriman looms, or twenty Northrop looms, and I am sure that as much energy, dexterity and watchfulness are demanded from the four-loom weaver in England.*"

These comments place the different looms in the following order of labor required:—

English looms,	4	to a	weaver.
American common looms,	8	"	"
Warp-stop motion common looms,	10	"	"
Shuttle changing warp-stop looms,	12	"	"
Northrop looms,	20	"	"

We have little reason to object to this grading but, as a matter of fact, it is doubtful if the 10 warp-stop looms will produce as much per loom as the 8 common, and it is also doubtful if the shuttle-changing looms will stay in order long enough to maintain their assumed rate of product.

The English looms are in a class by themselves, owing to their higher speed, smaller shuttles, slacker twisted yarn, etc. Leaving them out we can make a fair comparison of the rest.

Assuming for easy figures—that we have looms weaving goods on which the common loom weavers earned 20 cents per cut, all the looms producing a cut each, per day, and we should have a price scale somewhat as follows, under normal conditions:—

8 common looms, 48 cuts per week, at 20 cents, cost for weaving, in wages, $ 9.60.
10 warp-stop looms, 60 cuts per week, at 17 cents, cost for weaving, in wages, $10.20.
12 shuttle-change looms, 72 cuts per week, at 14 cents, cost for weaving, in wages, $10.08
20 Northrop looms, 120 cuts per week, at 9 cents, cost for weaving, in wages, $10.80.

The saving per loom in weavers wages would figure per year, as follows:—

Calling common loom basis O.

	FOR YEAR OF 300 DAYS.
Warp-stop looms, save per cut 3 cents, at cut per day,	$9.00
Shuttle-change looms, save per cut 6 cents, at cut per day,	$18.00
Northrop looms, save per cut 11 cents, at cut per day,	$33.00

This shows a saving of the Northrop over the warp-stop loom of $24 per year, equal to $240 of extra value, capitalized at 10 per cent., and a saving of the Northrop over the shuttle-change loom of $15 per year or $150 extra value, on same basis.

These figures allow nothing for such extra expenses as may be involved in interest, depreciation, etc., but such reductions will not effect the proportionate standing.

Thus, even supposing that the warp-stop or shuttle-change looms are satisfactory in other respects, no one could logically afford to buy them in preference to the Northrop loom. The facts are, however, published tests notwithstanding, that no single section of shuttle-changing looms has ever yet given continued satisfaction in the simple respect of mechanical efficiency.

PURCHASE OF MACHINERY.

Purchase of machinery, like purchase of everything else, is governed by many varied elements. Quality and price are not the only factors concerned. Personalities control in many instances, the affability, nationality, or persistency of the salesman governing the final choice. We have even known of cases where mill men bought from our competitors because they thought we were getting more than our share of business. Others have declined to buy from those best suited to meet their wants because of some personal feeling, induced by dissatisfaction over some minor point. Now, any reasons other than quality or price, are not only foolish and inconsequent, but practically a robbery of the interests being served. Few mills are owned in whole, or in large part by the men who purchase their equipment, and any poor investment on their part simply lessens just so much the dividends to be earned. Not that we should assume that such intentions are predetermined. The buyers usually really believe that one builder's product is just as good as another's, or that the low price of one really balances the superiorities of the other. Of course, the decision in lines of machinery, where little attempt is made at innovation, is more or less difficult. When, however, builders of

high and long established standing, make distinct claims to definite superiority, and are willing to furnish facts and illustrations in support of their claims, it will not do to pass the matter by without giving mature consideration.

We manufacture nothing, absolutely similar in type to that of any other builder, except in instances where other builders have copied our machinery by reason of lapse in patents, or by reason of our allowing them to use our patents on a royalty basis. In such cases, we must simply trust for preference to minor points of excellence, or to the possible reputation we may have established for thoroughness in construction and high quality of materials. In our earliest line, the manufacture of temples, we have no present competition worth recognizing. The same is just as true of spindles; and in spinning rings the competition is of that complimentary kind which recognizes the value of original ideas by duplication when protection has expired. We have never yet built spinning frames, preferring the trade of supplying parts to builders, and the changing over of old frames. In twisters and spoolers, we have in a way encouraged competition by licensing other parties to use such parts as spindles, rings, spooler guides,bobbin holders, etc. Although we control by far the larger share of the warper trade, the sale of certain competing machines is but a potent illustration of human perverseness. Judging the case on merit alone, we could never understand why competition could exist.

In looms, there is no question whatever, at present, of superiority. It is now simply a question of price. People buy cheaper and poorer things than they desire, the world over, when they cannot afford the better article, or have not convenient funds at hand. We have been urged by numerous friends at many times to lower our prices and thus gain larger business. While present prices fill our shops with work, reduction does not seem plausible, and the contraction in possible sales is of great protection and benefit to the earlier purchasers,who have certain important claims on our consideration. It would hardly change conditions of profit to present mills, if they were all **given** Northrop looms tomorrow. Profits come to those who get the earlier use, the later purchasers simply equipping finally as an absolute necessity of competition. We make a good profit out of our loom, but we give the purchaser a profit as well. No one can continually make an extra profit out of an intelligent purchaser, without having given an extra profit.

COTTON CHATS

By the Secretary of the

DRAPER COMPANY,

HOPEDALE, MASS.

No. 12. NOVEMBER, 1902.

NEW FOUNDRY.

In referring to our contemplated increase in foundry capacity, the trade papers have referred to the area of the whole foundry when completed as covering two and a quarter acres. This however is simply the size of the addition itself, as the whole floor space of this department, as planned, will be at least six acres. In order to arrange for the necessary changes we shall have to move a section of the Grafton & Upton Railroad from its present location, and also move various tenements and other buildings. We hardly thought on completing our new plant in 1901 that such a move would force itself so soon—but perhaps we have ourselves failed to realize the possibilities of Northrop Loom introduction.

SPINDLE OIL.

Discussion of the valuable paper on Spindle Banding, presented by Mr. William D. Hartshorne at the meeting of the New England Cotton Manufacturers' Association in New York City, Oct. 1st, brought out the interesting fact that Twister spindles require a different oil than Ring frame spindles. This is quite natural as twister spindles are heavier and run more slowly. No doubt it would be found by careful test that a mill should properly purchase and use a dozen or more different oils, for a dozen or more divisions of application. While results in some directions would hardly pay for the trouble, the power used by spindles certainly demands careful consideration.

Back in 1888 we made our long tests at Woonsocket and Lowell under General Draper's supervision to determine the value of light gravity oil. The results are on record in the printed volumes of the N. E. C. M. A., for April 1888. We found that oils of gravity from 36 to 38 saved 11 to 12 per cent. in power over those of 26 to 27

gravity in actual spinning conditions. Since that time the oil experts have been continually experimenting and the writer has found an oil of 34 gravity which gives quite as good results as those above—but he has never found an oil below 30 that was not a great consumer of power on high speed spindles.

The tests for gravity and viscosity are not in themselves sufficient to settle the question, in fact nothing but a practical power test, supplemented by actual experience in wear, will furnish a satisfactory solution of the problem. As comparative tests are expensive and not always convincing—under the probable limitations—the mills are more or less at the mercy of the oil-mixers; and should therefore choose by reliability and reputation as in other lines. The writer never yet saw a cheap spindle oil that was relatively good.

MILL COMPARISON.

Those who are not convinced as to the advantages of new machinery often point to the dividends being earned by the older mills which have not taken advantage of late inventions as an irresistible argument in their favor. Appearances are ever deceitful, however, as a careful investigation may always determine.

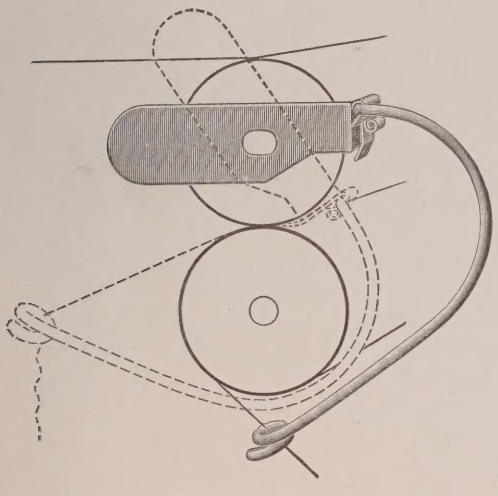
Taking the probable cost of an average Northern mill at from $13 to $15 per spindle on plain goods, we find by comparison of figures that the larger number of the older mills have increased their spindles and other machinery without proportionate increase of capitalization, which will now average about $9 per spindle in the larger centres. This additional increase was purchased from the profits on machinery that **was** up-to-date in its day. The new mill, therefore, if earning equal dividends on stock capitalization, is perhaps earning really fifty or sixty per cent. more per spindle or per loom. This fact must not be lost sight of in comparing the newer Southern mills with Northern mills. Apart from the increased cost of those having Northrop looms, there is a marked difference in capitalization per spindle to be noted. Of course the investor in mill stock cares only for the market price of the stock itself. It is quite evident from quotations, that one may easily buy shares in many mills having old machinery at the rate of $9 per spindle, which simply emphasizes the fact that the market value of their plants is injured by the non-progressive policy.

Now the machinery of an old mill does not necessarily deteriorate in usefulness at the rate of its wear. If kept prop-

erly repaired, there is no reason why Pickers or Cards or Spinning Frames, should not turn out the same volume and quality as when new—in fact wear in some lines conduces to better volume of product. The depreciation in earning power is therefore not to be found in the preliminary departments—it must be in the last department—**the weaving-room.** It must be there because the new mills with their Northrop looms, are forcing down the value of their competitors.

If we figure that the average mill has 40 spindles to a loom, a reduction of hardly over a dollar per spindle, would wipe out the whole value of an equipment of common looms. All that the old mills need—in the majority of instances—to make them equal to new mills in the vital factor of cheap production is **Northrop Looms.**

• • •



THE T. H. SMITH TWISTER STOP-MOTION.

The device as shown in the cuts consists in a simple bent wire attached to a sheet metal holder, having a hole or bearing to encircle the top-roll pivot, also a flexible metalic (German silver) tongue to engage the top roll and stop the same when necessary. The wire end drops when not held up by the perfect thread, allowing the tongue to feed in between the rolls. In operation this device practically stops all waste on twisters. It is simple, cheap and effective, and can be applied when the frame is running. Its use will prevent roller laps, enables the help to tend more spindles, and allows the speed to be increased. A recent improvement

consists in extending the rear portion of the signal so that it will stick up prominently and attract the eye of the operative when an end is broken.

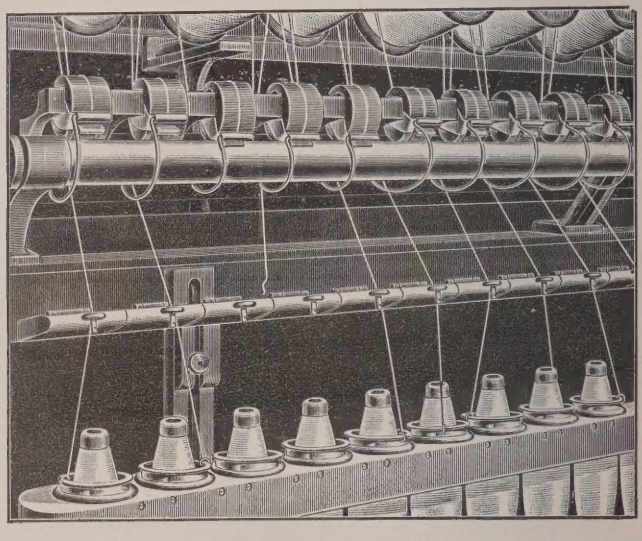
There are still many twisters running that might profit greatly by its use. We do not claim that it is suitable for all conditions.

It is **not** recommended for wet twisting.

It applies where a **single** line of rolls is used, the yarn being delivered from the **under** side of the bottom roll.

With two ply yarn it stops delivery if either thread breaks.

With more than two ply it only stops when the formed twisted thread breaks.



1 2 3 4 5 6 7 8 9

This cut shows the possible operations of the device.

Spindle No. 3 shows operation with end broken back in creel.

Spindle 4 shows a thread broken down in front.

Spindle 5, has a broken band. The stop-motion holds the end till a new band is put on.

The device is of more value for worsted than cotton on account of the higher value of the waste saved. The Washington Mills alone have ordered over 20,000 at different periods.

Broken ends are held in place and do not lash around to break others.

The frame can be started after doffing without stopping to piece up.

We allow other builders to use this idea and at the price there is no excuse for bad work in its field.